UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

September 24, 1999

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OFFICE OF THE
REGIONAL ADMINISTRATOR

Mr. Gerald R. Zimmerman
Executive Director
Colorado River Board of California
770 Fairmont Avenue, Suite 100
Glendale, CA 91203-1035

Dear Mr. Zimmerman:

Thank you for your letter of June 22, expressing your support of our efforts to respond to perchlorate contamination discovered in the Colorado River. We understand how important this problem is to Colorado River users in California, Arizona and Nevada. We are doing everything we can to address this problem as soon as possible. For nearly two years the issue of perchlorate in water supplies has been a very high priority for Region 9, and with our increased knowledge of the extent and potential health and environmental effects of perchlorate our concern has grown. The states of California, Arizona and Nevada, as well as tribes and local agencies have all contributed valuable information on the effect of perchlorate releases to the Colorado River.

One of Region 9's first reactions was to raise the problems associated with perchlorate to a nationwide priority within EPA and other agencies of the federal government. An intensive effort has resulted in significant progress in a relatively short time to clarify human toxicity, ecological and agricultural effects, development of treatment and analytical technologies and to begin to formalize the regulatory status of perchlorate. However, it must be emphasized that much is left to be done in all these areas.

More specifically, there have also been recent developments in responding to the perchlorate contamination in the Colorado River, which should lead to rapid progress in minimizing the source and monitoring the spread of contamination down river. Several courses of action are being pursued by the regulatory agencies to address remediation of perchlorate- contaminated ground water entering Las Vegas Wash in the Henderson, Nevada area. Releases from two facilities, Kerr-McGee Chemical Corporation (KMCC) and American Pacific Corporation, located in the Henderson Nevada area have contributed to perchlorate-contaminated ground water. At this time, it appears that the majority of perchlorate-contaminated ground water entering Las Vegas Wash was released from the Kerr McGee facility. Investigations by American Pacific Corporation to define the extent of contamination related to their facility are ongoing.

The approach being taken to control the perchlorate originating from KMCC consists of three phases. The first phase began operating at the end of December 1998, extracting perchlorate-contaminated ground water at KMCC's chrome treatment line of wells at a rate of 40

to 60 gallons per minute (gpm). This line of wells is located on KMCC property, over three miles from the Las Vegas Wash. The ground water is being discharged into an 11.5 acre lined evaporation pond constructed for this purpose. Use of this lined pond is an interim approach for handling the contaminated water while an appropriate perchlorate treatment method is being developed and constructed. The perchlorate concentration of the extracted water has recently been averaging 1,200 ppm. To date, this system has intercepted and removed from the ground water system over 140,000 pounds of perchlorate.

The second phase involves the extraction of ground water from an area known as the Pittman Lateral located downgradient of KMCC property approximately 6000 feet south of Las Vegas Wash. Perchlorate in ground water at this location has been measured as high as 1000 ppm. Extraction on an interim basis, at the rate of approximately 4000 gallons per day (3 gpm daily average) began on July 28, 1999. This extracted ground water is now being trucked to the existing evaporation pond until a pipeline is constructed to convey the ground water to a permanent treatment location on Kerr McGee property. We feel that an increased pumping rate of between 50 and 100 gpm can capture a significant portion of the perchlorate at the Pittman Lateral if the pumping is focused on those wells exhibiting the highest perchlorate concentrations. Ultimately, an extraction rate of up to 350 gpm might be necessary to fully capture the plume at this location. The Pittman Lateral provides an excellent opportunity to intercept a major portion of the perchlorate plume in ground water passing this point due to the configuration of the paleo stream channel through which the ground water flows. We are anxious to see the cleanup actions in this area expanded to fully intercept and treat the contaminated groundwater. The recently signed Consent Agreement (also discussed below) requires submission of a workplan by September 26, 1999, for long-term capture of the contaminated groundwater, including activities at the Pittman Lateral area, with recovery to begin by December 31, 1999.

On July 28th, the Nevada Division of Environmental Protection (NDEP) entered a Consent Agreement requiring KMCC to begin to take immediate steps to intercept perchlorate before it reaches Las Vegas Wash and Lake Mead. The Consent Agreement involves planning and implementation of a third phase which includes both a long term remedy for perchlorate-contaminated ground water in the Henderson area and a short term remedy to collect and treat a surface discharge discovered in late April of this year, approximately 100 feet from Las Vegas Wash. This discharge has been measured at approximately 360 gallons per minute with perchlorate concentrations of about 100 ppm. The discharge is a manifestation of the same perchlorate plume passing the Pittman Lateral and is estimated to contain about 50% of the perchlorate entering Las Vegas Wash. Interception of this surface discharge and identification and interception of the remaining 50% of ground water reaching Las Vegas Wash in this area would provide for the most immediate decrease in perchlorate concentrations in Las Vegas Wash. The Consent Agreement established an August 12 deadline for submission of a plan to capture and treat the 360 gpm surface discharge near Las Vegas Wash by October, 1999 (Kerr McGee did submit this workplan on August 12th; NDEP and EPA are currently reviewing it). The Consent Agreement also provides for negotiating the implementation of long-term ground water cleanup issues. EPA will continue to work with NDEP, Kerr McGee and American Pacific to achieve the goal of full interception and treatment of the perchlorate plume as expeditiously as possible. Please feel free to contact Mr. Mitch Kaplan in our Waste Management Division at

(415) 744-2063 for further details about the remediation efforts at Kerr McGee Chemical in Henderson, Nevada.

With the full cooperation of state and local authorities, EPA and the U. S. Geological Survey have begun a coordinated perchlorate monitoring program this summer on the Lower Colorado River. This effort takes advantage of USGS' well-established water quality monitoring program (National Stream Quality Accounting Survey) and Region 9 analytical capabilities. Six times each year, USGS samples the river at three stations on the Lower Colorado - Hoover Dam, Imperial Dam and the northern boundary with Mexico - and composited samples will be shipped to EPA for perchlorate analyses. Thoroughly documented USGS sampling protocols and EPA QA/QC protocols will be followed. Additionally, samples will be obtained at the Las Vegas Wash before it enters Lake Mead and at critical points where water is withdrawn from the river for municipal and irrigation uses. These samples will be obtained by the local authorities and analyzed by EPA. This effort will compliment ongoing monitoring efforts and provide a basis for comparison with other perchlorate concentration values from the various local monitoring programs. Please feel free to contact Kevin Mayer of our Superfund Program at (415) 744-2248 for further details about this monitoring program.

We will follow up on your suggestion for modeling the distribution and dispersion of perchlorate in the Colorado River. It is important to understand how long perchlorate may remain in portions of the Lower Colorado River even after the source of contamination is controlled. We will contact the Bureau of Reclamation and USGS to see how to accomplish this most effectively.

We are very appreciative of your insights, positive suggestions and the depth of your concern over the continuing presence of perchlorate in the Colorado River. Again, I want to emphasize that we understand your concern with this problem, and have made addressing it a major priority. EPA will continue to work with you and keep you informed of results and progress.

Yours,

Felicia Marcus,
Regional Administrator

cc: Allen Biaggi, NDEP
Richard W.Bunker,Colorado River Commission of Nevada
Patricia Mulroy, Southern Nevada Water Authority
Rita P. Pearson, Arizona Department of Water Resources
Senator Barbara Boxer
Senator Dianne Feinstein